

Traffic Volumes and Hours of Congestion for Eastern Massachusetts Express Highways

The accompanying maps display traffic volumes and congestion levels on express highways in eastern Massachusetts over the period 1970–2000, and projected to the year 2010. The following discussion provides a context for the growth in volumes and congestion experienced on the regional express-highway system.

Traffic volumes on the eastern Massachusetts express-highway system have grown dramatically over recent decades, almost tripling from 19.6 million daily vehicle-miles of travel in 1970 to 56.1 million in the year 2000. A further growth of 16 percent to 65.0 million daily vehicle-miles is anticipated by the year 2010.

Associated with the growth of traffic volumes, the amount of express-highway congestion has also grown over the years. In the year 1970, only two regional express highways routinely experienced 1.5 to 3.0 hours with traffic volumes at or near capacity during each of the daily AM and PM peak periods of travel: the Boston Central Artery and the Southeast Expressway. The great majority of the remainder of the eastern Massachusetts express highways experienced little or no congestion.

By 1980, traffic conditions on the regional express-highway system were clearly worse, with traffic volumes at or near capacity for 1.5 to 3.0 or more hours during each peak period for most of circumferential Route 128, and for parts of Route 1 North, Route 3 North and South, and I-93 north to Route 128. Traffic conditions deteriorated on the Central Artery and the Southeast Expressway, with some sections experiencing traffic volumes at or near to capacity for 3.0–4.5 hours during each daily peak period of travel.

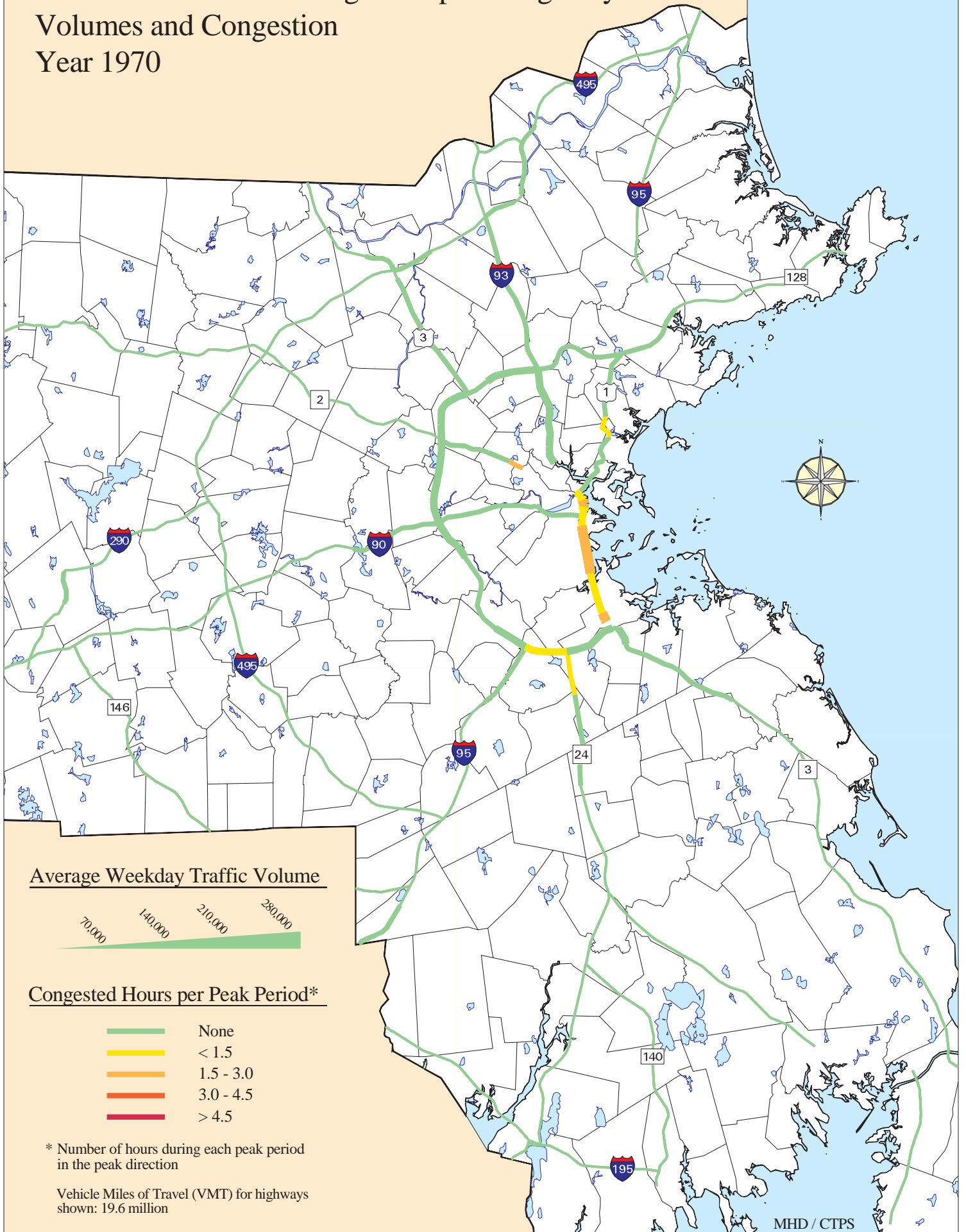
Traffic conditions continued to deteriorate. By the year 2000, much of Route 128, the Southeast Expressway, and the Central Artery routinely experienced 3.0–4.5 hours with volumes at or near capacity during each of the daily peak periods of travel, with some roadway sections experiencing in excess of 4.5 congested hours twice each day. In addition, new and increased congested hours of operation were now spreading to virtually all of the radial express highways. By the year 2000, almost all of the northern half of I-495 was experiencing some traffic congestion during the daily peak periods of travel, with roadway sections in the area of Route 3 North and I-93 experiencing 1.5–3.0 hours of traffic volumes at or near capacity during each peak period. Significant congestion was also beginning to be experienced on certain express-highway segments in the Worcester area.

Projections to the year 2010 show continuing increases in congestion on the eastern Massachusetts express-highway system. By that year, much of circumferential Route 128 will be experiencing 3.0–4.5 hours of congestion twice each day. Every radial highway—except I-95 North—will experience at least some congested hours of operation, with at least half of them having traffic volumes at or near capacity for more than 1.5 hours during each peak period, and with significant segments of roadway having 3.0 or more hours of congestion during each peak period of travel. By the year 2010, it is projected that nearly the entire length of I-495 will be experiencing some peak-period congestion, with the section near Route 3 North being congested for more than 3.0 hours during each of the two daily peak periods of travel. Congestion in the Worcester area will continue to worsen.

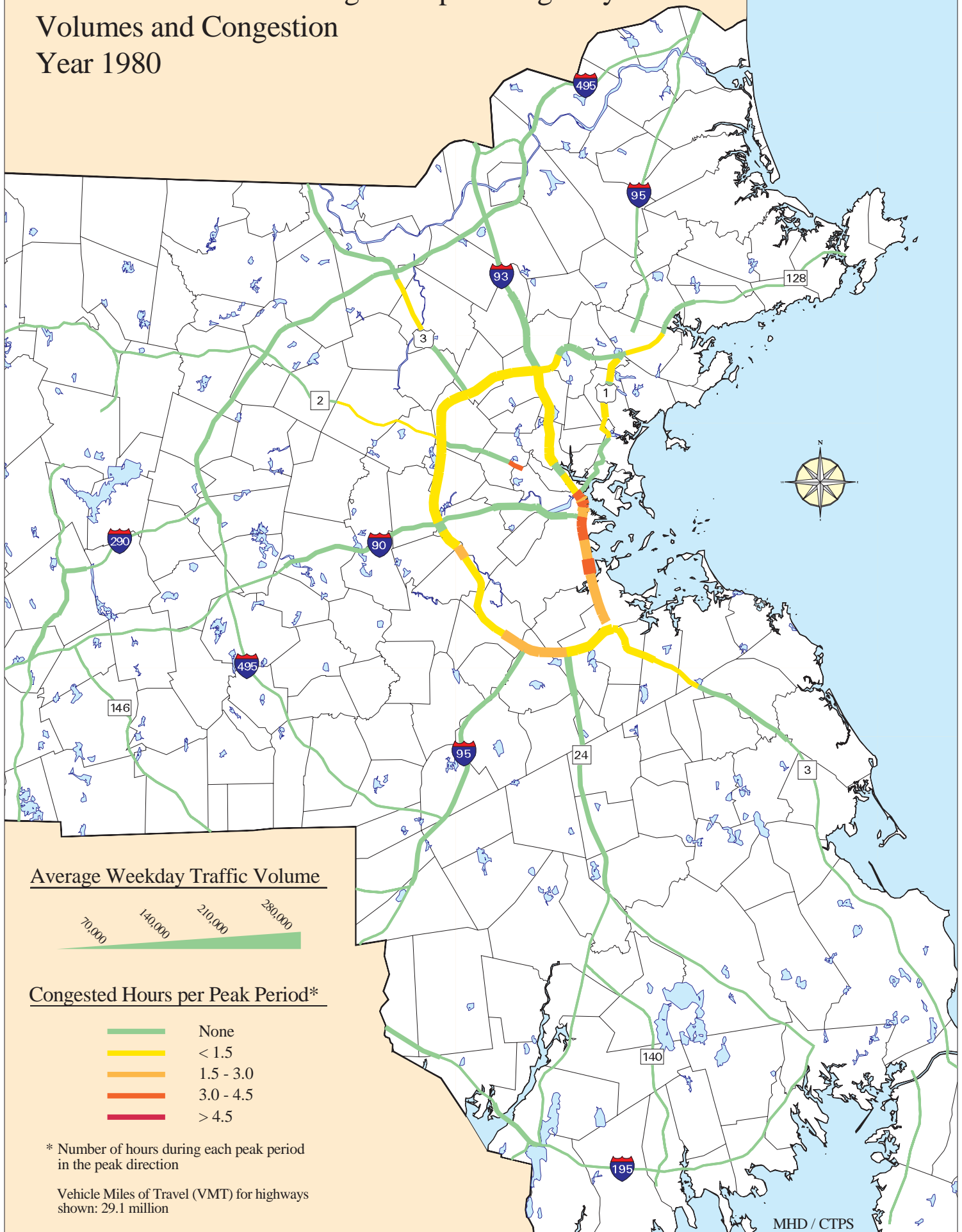
In spite of generally increasing express-highway congestion in eastern Massachusetts, some encouraging changes are evident, one of which is in the Central Artery/Tunnel (CA/T) project area. Prior to and during project construction, the Central Artery and the harbor crossings were key highway system bottlenecks, as they did not have the capacity to handle the volumes of traffic fed to them by the radial highways. Now, they are largely free of congestion. With the CA/T highways in place, the core of the regional express-highway system can now accommodate all of the traffic that the radial highways can deliver.

Two other roadways show significant decreases in congested hours between 2000 and 2010. First, Route 3 North, which was widened from four to six lanes during the years 2000–2005, has significant reductions in hours of congestion between the years 2000 and 2010. Second, the section of Route 128 between Route 24 in Randolph and Route 9 in Wellesley is currently being widened from six to eight lanes. Projections to the year 2010 also show significant reductions in the number of congested hours of operation for this highway segment as compared with those of the year 2000.

Eastern Massachusetts Region Express Highways Volumes and Congestion Year 1970



Eastern Massachusetts Region Express Highways Volumes and Congestion Year 1980



Average Weekday Traffic Volume



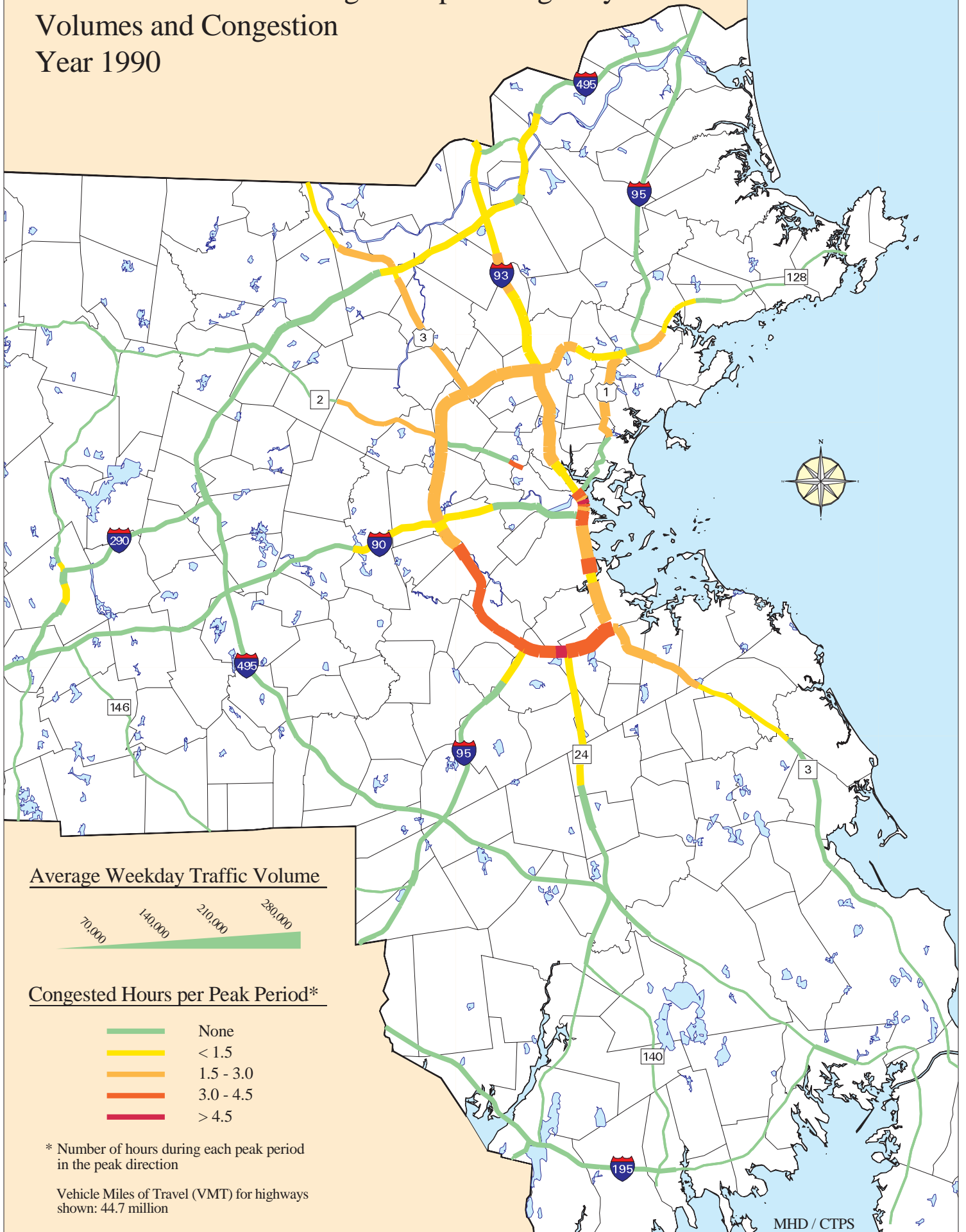
Congested Hours per Peak Period*



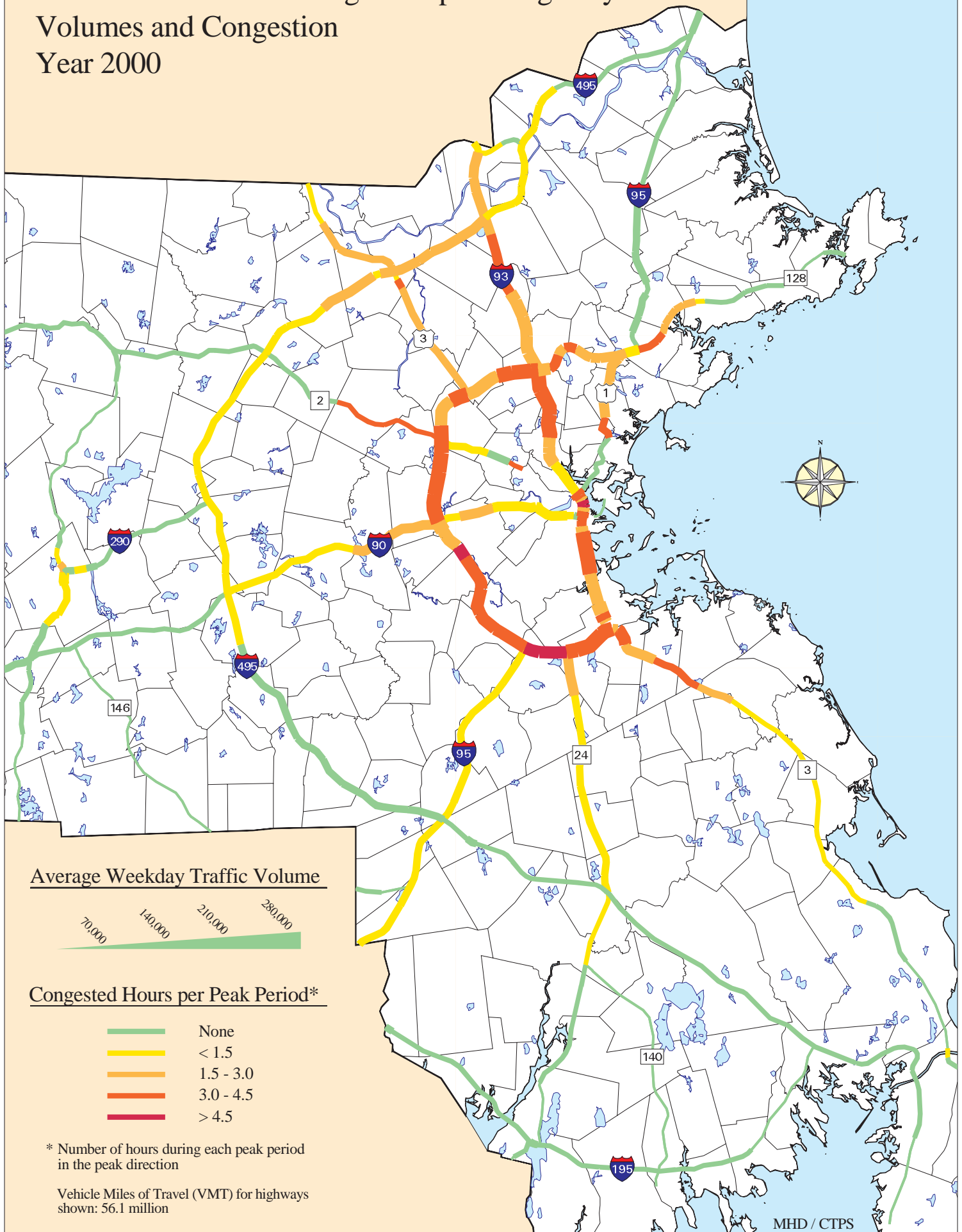
* Number of hours during each peak period in the peak direction

Vehicle Miles of Travel (VMT) for highways shown: 29.1 million

Eastern Massachusetts Region Express Highways Volumes and Congestion Year 1990



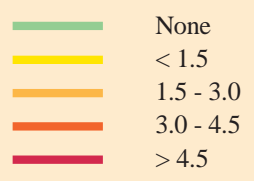
Eastern Massachusetts Region Express Highways Volumes and Congestion Year 2000



Average Weekday Traffic Volume



Congested Hours per Peak Period*



* Number of hours during each peak period in the peak direction

Vehicle Miles of Travel (VMT) for highways shown: 56.1 million

Eastern Massachusetts Region Express Highways Volumes and Congestion Year 2010 (Projected)

